



# Urban Mobility in Ulaanbaatar City

UN-Habitat Mongolia

# Mongolia Economy

- Since 2000, economy of Mongolia has grown at an average annual rate of around 5.6%. The transition from centrally planned to market economy has also proceeded rapidly.
- Economic growth has been spurred by international high prices for Mongolia's mineral products, which account for around 56.0% of the national gross domestic product.

# Mongolia: Development and Economic Indicators

<b>Population in millions</b>	<b>2.83 (2012)</b>
Annual population growth rate (%)	1.7 (2010–2012)
Adult literacy rate (%)	97.4 (2010)
Population in urban areas (%)	68.5 (2011)

<b>Economic Indicator</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Per capita GNI, Atlas method (\$)	1,770	1,760	1,870	2,310	...
GDP growth (% change per year)	8.9	(1.3)	6.4	17.5	12.3
CPI (% change per year)	28.0	7.6	10.1	9.1	14.3
Unemployment rate (%)	2.8	3.6	3.6	5.2	...
Export growth (% change per year)	30.1	(25.6)	54.3	65.6	(9.0)
Import growth (% change per year)	57.4	(34.1)	49.7	106.2	2.1

( ) = negative, ... = data not available, CPI = consumer price index, GDP = gross domestic product, GNI = gross national income.

# Ulaanbaatar City

- Ulaanbaatar is the capital city of Mongolia with 1.2 million residents, which represents 42.0% of the country's total population (2.83 million in 2012).
- Since the mid-1990s, Mongolia has experienced intensive urbanization, and the population of Ulaanbaatar has doubled since 1998 due to rural–urban migration because of underdevelopment of rural areas and greater employment opportunities offered in the capital city.
- Travel demand in Ulaanbaatar has increased sharply as a result of this population growth and urban expansion

# Motorization

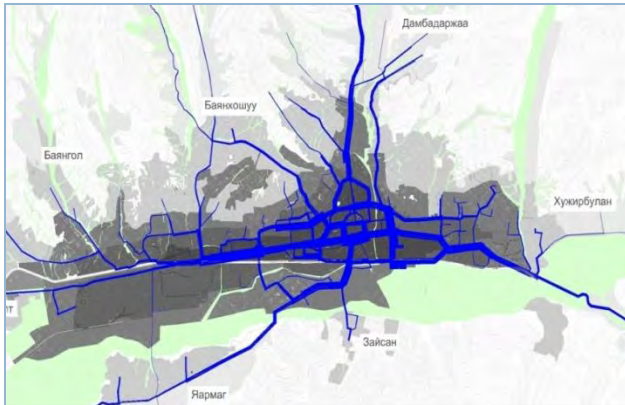
- Motorization has grown rapidly in the past 15 years.
- In 1998, the number of registered vehicles was 36,700, of which 23,800 were private cars.
- By 2012, this had increased to 228,952 registered vehicles (6.2 times) and 177,522 private cars (7.5 times).
- This has resulted already with the massive investments in road and bridge infrastructure to address traffic congestion

# Traffic demand

- In 2011, the estimated overall transportation demand in Ulaanbaatar city was 2.92 million trips a day including walking trips, or 1.98 million (69.0%) trips a day excluding walking trips.
- Total transportation demand in the city consists of walking (31.0%), car (23.4%), taxi (9.4%), bus (33.7%), and others (2.5%).
- When walking is excluded, the total demand consists of car (34.9%), taxi (13.3%), bus (48.1%), and others (3.8%).
- The use of public transport is high regardless of whether or not a household has a car. Those without a vehicle show the highest transport usage (52.0%), but even those with a car have a relatively high usage (27.0%).
- The use of bicycles, motorcycles, and private buses, such as company or school buses, is not popular.

# Road Network

## Existing Road Network



- The road network is well developed only in the central area of Ulaanbaatar.
- In outlying residential areas, where many low-income families live, ill-maintained primary feeder roads and unpaved connector roads act as a barrier to provision of public transport services.
- The MUB has established a road fund to finance road network construction and maintenance works but it is insufficient to cover the city's needs.
- The storm water drainage system is unable to cope with even normal rainfall. Lack of snow or ice clearing in winter and no system of sanding or gritting road surfaces leads to ice formation that lasts for a long time and slows traffic and increases accidents.

## Planned Road Network up to 2030





# Traffic congestion



- Most of the major intersections in the city center are severely congested (220 seconds/vehicle), resulting in average speeds of 5–8 km/hour in the central section of Peace Avenue during peak hours.
- Traffic congestion is aggravated by insufficient management and enforcement of parking, excessive and inappropriate designation of parking spaces, lack of pedestrian facilities, lack of driver discipline, and inadequate signaling and control.
- Encroachment on roads and sidewalks by parked vehicles worsens the traffic situation.
- Planning and budgeting for pedestrian and parking infrastructure are lacking.



# Traffic safety

- Ulaanbaatar has a range of serious road traffic safety problems. The rates of traffic fatalities and personal injury accidents relative to the number of registered vehicles are high.
- While the capital city is home for about 42.0% of the total population of Mongolia, Ulaanbaatar accounts for more than 70.0% of the annual traffic accidents in the country.
- While there has been some reduction in the traffic fatality rate since 2000, it continues to be above 7.5 deaths per 10,000 vehicles per year.



# Public transport



- Public transport accounts for almost 50.0% of the total urban traffic in Ulaanbaatar.
- There are 82 bus companies operating 1,662 buses of a variety of types.
- The three state-owned bus and trolleybus companies carry 23.0% of passengers.
- Since 2000, the role of private bus companies that operate large buses and minibuses has increased considerably.
- The performance of public transport has been hampered by the growing problems of
  - ▣ traffic congestion
  - ▣ inefficient public transport policies
  - ▣ lack of coordination among the urban development and public transport regulatory agencies

# Public Transport System

- The public transport system is struggling with service quality and technical, financial, and institutional challenges.
  - ▣ Growth in public transport services has lagged behind the recent urban growth, and the majority of buses are more than 10 years old.
  - ▣ Public transport tariffs do not fully cover the costs of the operators and about 40.0% of passengers are subsidized by the municipal budget.
  - ▣ Bus operators lack the financial resources to renew and expand their bus fleets and provide adequate transportation services.
  - ▣ Disabled people, pensioners, police, and soldiers use public transport free of charge and students pay half the normal fare.
  - ▣ The amount of compensation was \$4.5 million in 2007 and \$8.5 million in 2008. This sudden increase was caused by a sharp increase in the number of subsidized passengers, including students. The amount of compensation was about 5.0% of total MUB expenditure in 2003 and around 20.0% in 2011, which has become a heavy fiscal burden for the MUB.

# Vehicle emissions

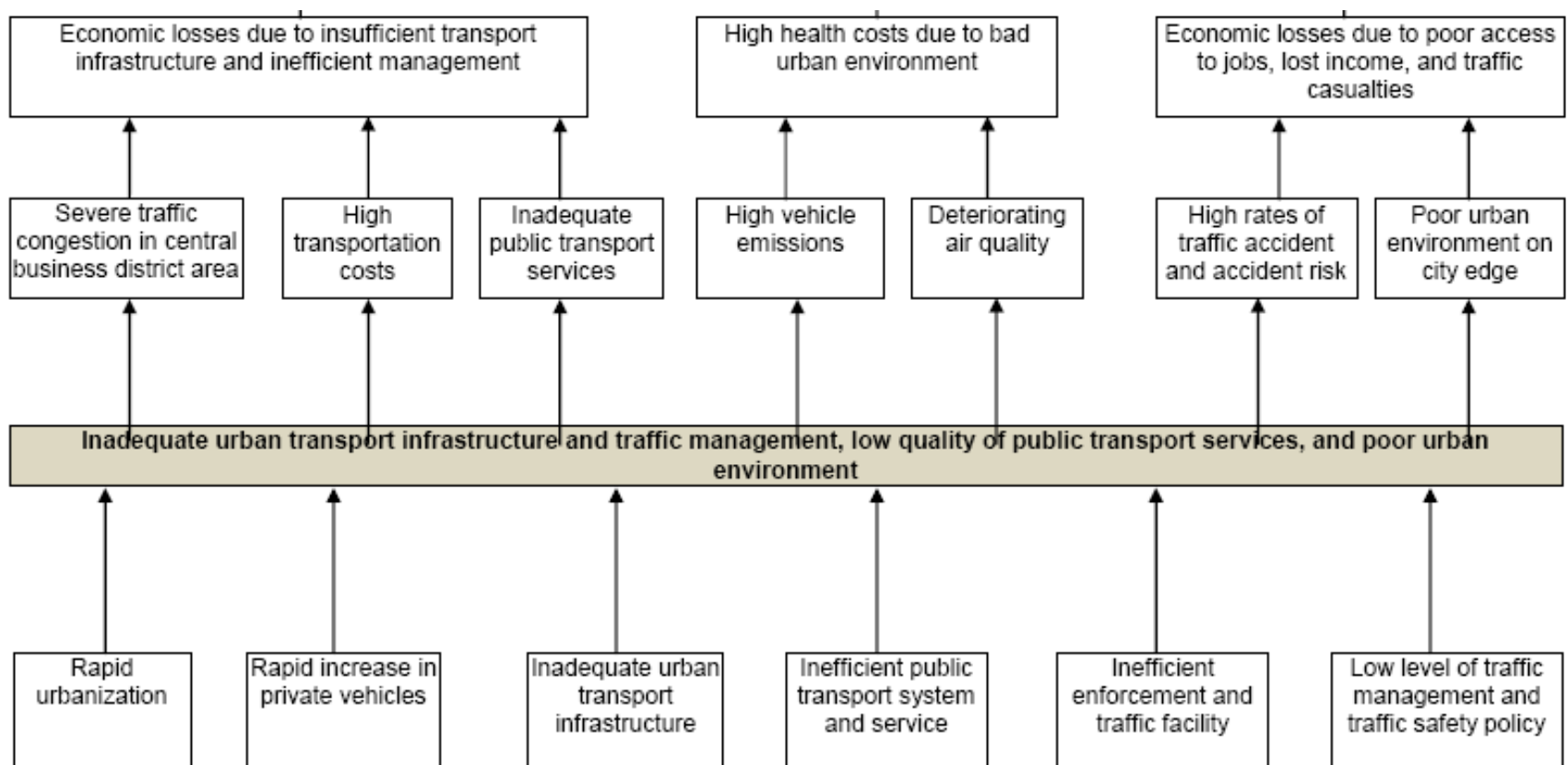
- The level of air pollution in Ulaanbaatar varies across the districts, depending on pollution sources, contents of emissions, and meteorological conditions.
- Corresponding to a rise in the number of vehicles, the concentration of nitrogen dioxide has been increasing over the years.
- The population density of the apartment area in the central part of the city is quite high, and major thoroughfares serve as the major transport corridor, thus vehicle emissions substantially affect the health of the population residing in the apartment area.



# Institutional capacity

- The following areas of the MUB's capacity need to be upgraded:
  - ▣ developing, implementing, and enforcing the urban transport policy and strategy;
  - ▣ undertaking long-term investment planning, capital budgeting, and financial management;
  - ▣ designing and managing urban transport projects.

# Problem Tree for Urban Transport in Ulaanbaatar City





THANK YOU FOR YOUR  
ATTENTION!